

**What Is Claimed Is:**

1. An exposure apparatus that exposes a substrate via a projection optical system, the apparatus comprising:
  - 5 a substrate stage that can move with the substrate mounted; and a measurement section that has a plate on which a liquid is supplied and performs measurement related to the exposure via the projection optical system and the liquid, wherein
  - 10 the apparatus is configured so that at least a part including the plate that constitutes the measurement section can be exchanged.
2. The exposure apparatus of Claim 1 wherein
  - 15 the measurement section consists of a measurement unit that has at least a part of the unit arranged on a part of the substrate stage, and some of the components that include at least the plate that constitutes the measurement section unit is attached freely detachable to the substrate stage.
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  3. The exposure apparatus of Claim 1 wherein the measurement section comprises
    - 25 a measurement stage main body that can move within a two-dimensional plane independently from the substrate stage, and a measurement table main body that holds the plate.
4. The exposure apparatus of Claim 3 wherein

the plate is held detachable from the measurement table main body.

5. The exposure apparatus of Claim 4, the apparatus  
5 further comprising:

a leveling table attached on the measurement stage main body, wherein

the measurement table main body is supported finely movable on the leveling table.

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6. The exposure apparatus of Claim 5 wherein  
the leveling table can be driven in directions of six degrees of freedom, and  
the measurement table main body can be driven in  
15 directions of three degrees of freedom within a horizontal plane.

7. The exposure apparatus of Claim 3, the apparatus further comprising:

20 a self-weight compensation mechanism that compensates weight of the measurement table main body.

8. The exposure apparatus of Claim 1 wherein  
at least one fiducial mark and at least one pattern used  
25 for measurement is formed on the plate, and  
the measurement section has a light-receiving system that receives exposure light irradiated on the plate via the projection optical system, via the pattern used for measurement.

9. The exposure apparatus of Claim 8 wherein  
a plurality of types of patterns used for measurement  
are formed on the plate, and

5 the measurement section has a plurality of the  
light-receiving systems that correspond to the pattern used  
for measurement.

10. The exposure apparatus of Claim 9 wherein  
10 the plurality of types of patterns used for measurement  
include at least one of an aperture pattern used for aerial  
image measurement, a pinhole aperture pattern used for  
irregular illumination measurement, an aperture pattern used  
for illuminance measurement, and an aperture pattern used for  
15 wavefront aberration measurement.

11. The exposure apparatus of Claim 1, the apparatus  
further comprising:

20 at least one substrate stage different from the  
substrate stage on which the substrate is mounted.

12. The exposure apparatus of Claim 1, the apparatus  
further comprising:

25 a control unit that executes measurement by the  
measurement section according to an exchange timing of a  
substrate on the substrate stage.

13. The exposure apparatus of Claim 12 wherein  
the control unit executes measurement of specific types,

dividing the measurement into a plurality of times according to the exchange timing of the substrate.

14. An exposure apparatus that exposes a substrate via  
5 a projection optical system, the apparatus comprising:

a substrate stage that can move with the substrate mounted; and

a measurement section that has a plate on which mirror-polishing is applied on at least one edge surface, and  
10 performs measurement related to the exposure via the projection optical system, wherein

the apparatus is configured so that at least a part including the plate that constitutes the measurement section can be exchanged.

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15. The exposure apparatus of Claim 14 wherein the measurement section consists of a measurement unit that has at least a part of the unit arranged on a part of the substrate stage, and some of the components that include  
20 at least the plate that constitutes the measurement section unit is attached freely detachable to the substrate stage.

16. The exposure apparatus of Claim 14 wherein the measurement section comprises  
25 a measurement stage main body that can move within a two-dimensional plane independently from the substrate stage, and a measurement table main body that holds the plate.

17. The exposure apparatus of Claim 16 wherein  
the plate is held detachable from the measurement table  
main body.

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18. The exposure apparatus of Claim 17, the apparatus  
further comprising:

a leveling table attached on the measurement stage main  
body, wherein

10 the measurement table main body is supported finely  
movable on the leveling table.

19. The exposure apparatus of Claim 18 wherein  
the leveling table can be driven in directions of six  
15 degrees of freedom, and

the measurement table main body can be driven in  
directions of three degrees of freedom within a horizontal  
plane.

20 20. The exposure apparatus of Claim 17, the apparatus  
further comprising:

a self-weight compensation mechanism that compensates  
weight of the measurement table main body.

25 21. The exposure apparatus of Claim 14 wherein  
at least one fiducial mark and at least one pattern used  
for measurement is formed on the plate, and  
the measurement section has a light-receiving system  
that receives exposure light irradiated on the plate via the

projection optical system, via the pattern used for measurement.

22. The exposure apparatus of Claim 21 wherein  
5 a plurality of types of patterns used for measurement are formed on the plate, and

the measurement section has a plurality of the light-receiving systems that correspond to the pattern used for measurement.

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23. The exposure apparatus of Claim 22 wherein  
the plurality of types of patterns used for measurement include at least one of an aperture pattern used for aerial image measurement, a pinhole aperture pattern used for 15 irregular illumination measurement, an aperture pattern used for illuminance measurement, and an aperture pattern used for wavefront aberration measurement.

24. The exposure apparatus of Claim 14, the apparatus  
20 further comprising:

at least one substrate stage different from the substrate stage on which the substrate is mounted.

25. The exposure apparatus of Claim 14, the apparatus  
25 further comprising:

a control unit that executes measurement by the measurement section according to an exchange timing of a substrate on the substrate stage.

26. The exposure apparatus of Claim 25 wherein the control unit executes measurement of specific types, dividing the measurement into a plurality of times according to the exchange timing of the substrate.

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27. An exposure apparatus that exposes a substrate via a projection optical system, the apparatus comprising: a substrate stage that can move with the substrate mounted;

10 a measurement section that has a plate that can be exchanged, and performs measurement related to the exposure via the projection optical system; and

a detection unit that detects an exchange timing of the plate.

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28. The exposure apparatus of Claim 27 wherein at least one fiducial mark and at least one pattern used for measurement is formed on the plate, and

20 the measurement section has a light-receiving system that receives exposure light irradiated on the plate via the projection optical system, via the pattern used for measurement.

29. The exposure apparatus of Claim 28 wherein a plurality of types of patterns used for measurement are formed on the plate, and

the measurement section has a plurality of the light-receiving systems that correspond to the pattern used for measurement.

30. The exposure apparatus of Claim 29 wherein  
the plurality of types of patterns used for measurement  
include at least one of an aperture pattern used for aerial  
5 image measurement, a pinhole aperture pattern used for  
irregular illumination measurement, an aperture pattern used  
for illuminance measurement, and an aperture pattern used for  
wavefront aberration measurement.

10 31. The exposure apparatus of Claim 27, the apparatus  
further comprising:

at least one substrate stage different from the  
substrate stage on which the substrate is mounted.

15 32. The exposure apparatus of Claim 27, the apparatus  
further comprising:

a control unit that executes measurement by the  
measurement section according to an exchange timing of a  
substrate on the substrate stage.

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33. The exposure apparatus of Claim 32 wherein  
the control unit executes measurement of specific types,  
dividing the measurement into a plurality of times according  
to the exchange timing of the substrate.

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34. A device manufacturing method that includes a  
lithography process in which a device pattern is transferred  
onto a substrate using the exposure apparatus according to  
any one of Claims 1 to 33.

35. An exposure method in which a substrate is exposed,  
the method comprising:

an exchange process in which of a measurement section  
5 that performs measurement related to the exposure via a plate  
on which a liquid is supplied, at least a part including the  
plate is exchanged; and

an exposure process in which measurement related to the  
exposure is performed using the measurement section after the  
10 exchange, and the substrate is exposed reflecting the  
measurement results.

36. An exposure method in which a substrate is exposed,  
the method comprising:

15 an exchange process in which of a measurement section  
that performs measurement related to the exposure via a plate  
that has at least one edge surface mirror-polished, at least  
a part including the plate is exchanged;

20 a measurement process in which a position of the plate  
after the exchange is measured via the edge surface, and the  
measurement is performed using the measurement section; and  
an exposure process in which the measurement results are  
reflected and the substrate is exposed.

25 37. An exposure method in which a substrate is exposed,  
the method comprising:

a measurement process in which measurement is performed  
using a measurement section that performs measurement related  
to the exposure via a plate;

an exchange process in which an exchange timing of the plate is detected and the plate is exchanged; and  
an exposure process in which the substrate is exposed with the measurement results reflected.